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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,033	11/14/2003	Mohammad R. Haghighat	INTEL/17855	2870
75343                      7590                      11/05/2008 Hanley, Flight & Zimmerman, LLC 150 S. Wacker Drive Suite 2100 Chicago, IL 60606				
EXAMINER				
NGUYEN, PHILLIP H				
ART UNIT		PAPER NUMBER		
2191				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/714,033

**Applicant(s)**

HAGHIGHAT ET AL.

**Examiner**

Phillip H. Nguyen

**Art Unit**

2191

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 and 28-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 and 28-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This action is in response to the amendment filed 3/20/2008.
2. Claims 1-26 and 28-30 remain pending in this application, with claims 1, 3-6, 9, 11-14, 19, 21, 22, 25, 26, 28 and 29 amended, and claim 27 has been cancelled.

***Response to Arguments***

3. Applicant's arguments with respect to claims 1-26 and 28-30 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-26 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Avvari et al. (USPN 7,165,074), in view of Vanfladern et al. (USPN 6,754,612).

As per claims 1, 9, 19 and 25:

Avvari teaches

generating an instrumented code of the application (see at least col. 3, lines 20-22 "***The method includes using instrumented code to execute test cases in a test suite so as to create coverage data***"; also see at least col. 4, lines 52-55 "***The intelligent test system of the present invention uses instrumented software, herein also referred to as profiled software to execute all test cases...***");

executing a plurality of tests on the instrumented code of the application (see at least col. 4, lines 52-55 "***The intelligent test system of the present invention uses instrumented software, herein also referred to as profiled software to execute all test cases in all of the test suites so as to create coverage data***"; also see at least col. 6, lines 10-12 "***the test executor 114 uses all test cases in all of the test suites defined in the test suites component 110 using a profiled Java software component 102 creating coverage data***");

generating one or more test profiles associated with the plurality of tests (see at least col. 4, lines 52-55 "***The intelligent test system of the present invention uses instrumented software, herein also referred to as profiled software to execute all test cases in all of the test suites so as to create coverage data***"; also see at least col. 6, lines 10-12 "***the test executor 114 uses all test cases in all of the test suites defined in the test suites component 110 using a profiled Java software component 102 creating coverage data***"); and

selecting at least one of the plurality of tests based on an analysis of the one or more test profiles to reduce testing time of the application (see at least col. 2, lines 51-58 "***The data analyzer/optimizer is configured to analyze the coverage data contained in the database to find test cases affected by a modification to the software code. The data analyzer/optimizer is also configured to optimize the test cases that satisfy a criteria. The test executor uses the test cases that satisfy the criteria to test the modification to the software code***"; also see at least col. 6, lines 57-60 "***Upon determining the optimized test cases and creating the precision test list, a product Java source code executable is tested using only the test cases in the precision test list, eliminating the redundancy shortcoming associated with the prior art***"; also see col. 9, lines 29-32 "***the test executor 114 tests the product Java software 104 using the test cases in the precision test list thus substantially reducing the time associated with testing by eliminating the redundant test cases***").

Avvari does not explicit teach

generating one or more time stamps corresponding to a detection of one or more program states of the application; and

wherein the one or more test profile comprise the time stamps.

However, Vanfladern teaches an analogous art that using time stamps

generating one or more time stamps corresponding to a detection of one or more program states of the application (see at least 5:10-20 ***"If the test measurement system 102 wishes to obtain timing information regarding how long a particular operation within the application program 101 takes to perform, the test measurement system 102 may obtain a time stamp for a first code marker from a timing device 103. If time stamps are obtained by the test measurement system 102 at the beginning and end of a desired operation..."***); and

wherein the one or more test profile comprise the time stamps (see at least col. 2:56-59 ***"if the timestamp data is to be collected during the operation of the application program, a performance marker module for obtaining and storing the timestamp data for later retrieval..."***).

Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to modify Avvari's invention to include time stamps in the coverage data. The modification would have been obvious because the time stamp provides the user the time a particular operation within the program takes to perform or to minimize the latency between the application program's arrival at the code marker within its code and the execution of the instructions that actually obtain the timestamp measurement.

As per claims 2 and 10:

Avvari in combination with Vanfladern teaches all the limitations of the base claim and Avvari further teaches

wherein generating the instrumented code of the application comprises inserting one or more probes into the application (see at least col. 8, lines 3-15 ***"the profiled Java software 104 includes a plurality of special codes which when activated, causes certain information (e.g., flags, etc.) to be generated...the compiler is designed to insert a plurality of documented and hidden flags into the source code..."***).

As per claims 3, 11 and 21:

Avvari in combination with Vanfladern teaches all the limitations of the base claim and Vanfladern further teaches

identifying the one or more program states to indicate a time-based performance of the plurality of tests in reference to the one or more program states (see at least col. 4, lines 52-55 ***"Comparing the states of the program 101 at the code markers allows a user to determine what processes occurred between any two user defined code markers set within the program 101"***).

As per claims 4, 12 and 22:

Avvari in combination with Vanfladern teaches all the limitations of the base claim and Vanfladern further teaches

wherein the one or more time stamps are indicative of an earlier time corresponding to a breakpoint of the application associated with the one or more program states (see at least col. 5:15-17 “**...If time stamps are obtained by the test measurement system 102 at the beginning and end of a desired operation...**”).

As per claims 5, 13:

Avvari in combination with Vanfladern teaches all the limitations of the base claim and Vanfladern further teaches

wherein the one or more time stamps are based on at least one of a hardware timer, a software timer, or a virtual timer (see at least FIG. 1 “**timing device 103**”).

As per claims 6, 14, 15, 24 and 29:

Avvari in combination with Vanfladern teaches all the limitations of the base claim and Avvari further teaches

wherein identifying the at least one of the plurality of tests based on the analysis of one or more test profiles comprises generating a priority list having the at least one of the plurality of tests to identify one or more breakpoints of the application associated with one or more program states (see at least col. 6, lines 44-45 “**the data analyzer/optimizer 112 creates a precision test list of test cases satisfying a specific criteria**”; also see at least col. 8, lines 45-50 “**The**



***data analyzer then analyzes the changed...subsequently, a precision list of all the test case satisfying a certain criteria is created...").***

As per claims 7, 16, 23 and 30:

Avvari in combination with Vanfladern teaches all the limitations of the base claim and Avvari further teaches

wherein identifying the at least one of the plurality of tests based on the one or more test profiles comprises selecting the at least one of the plurality of tests based on the one or more test profiles in response to a query (see at least col. 8, lines 44-50 "***data analyzer 112a queries the source code controller system 106 requesting the functions/methods that have been changed. The data analyzer then analyzes the changed...subsequently, a precision list of all the test case satisfying a certain criteria is created...***").

As per claims 8 and 17:

Avvari in combination with Vanfladern teaches all the limitations of the base claim and Avvari further teaches

storing the one or more test profiles in a database (see at least col. 6, lines 34 "***each test case stored into the database 102***").

As per claim 18:

Avvari in combination with Vanfladern teaches all the limitations of the base claim and Avvari further teaches

wherein the machine readable medium comprises at least one of a programmable gate array, application specific integrated circuit, erasable programmable read only memory, read only memory, random access memory, magnetic media, and optical media (see at least col. 14, lines 19-22 "**Examples of the computer readable medium include hardware drives, network attached storage (NAS), read-only memory, random-access memory...**").

As per claim 20:

Avvari in combination with Vanfladern teaches all the limitations of the base claim and Avvari further teaches

wherein the code coverage device comprises at least one of a compiler, an assembler, an interpreter, or a post link optimizer (see at least col. 5, line 44 "**just-in-time compiler**"; also see FIG. 1, "**Data Analyzer/Optimizer**").

**Correspondence Information**

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phillip H. Nguyen whose telephone number is (571) 270-1070. The examiner can normally be reached on Monday - Thursday 10:00 AM - 3:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Y. Zhen can be reached on (571) 272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PN  
10/31/2008

/Wei Y Zhen/  
Supervisory Patent Examiner, Art Unit 2191